UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,774	12/08/2003	James M. Schreder	I20 05866US	3420

128 7590 07/24/2008

HONEYWELL INTERNATIONAL INC.
101 COLUMBIA ROAD
P O BOX 2245
MORRISTOWN, NJ 07962-2245

EXAMINER	
NORTON, JENNIFER L	

ART UNIT	PAPER NUMBER
2121	

MAIL DATE	DELIVERY MODE
07/24/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/729,774	SCHREDER ET AL.	
	Examiner	Art Unit	
	JENNIFER L. NORTON	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 April 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-5 and 7-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-5 and 7-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 February 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The following is a **Final Office Action** in response to the Remarks received on 08 April 2008. Claims 1 and 6 were previously cancelled. Claims 2-5 and 7-15 are pending in this application.

Claim Objections

2. Claim 15 is objected to because of the following informalities:

Claim 15, line 8 includes the syntax error of a missing "," at the end of line.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2-5 and 7-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,881,115 (hereinafter Lipner) in view of U.S. Patent No. 5,631,825 (hereinafter Van Weele).

5. As per claim 2, Lipner teaches as set forth below determining whether said current output is an information type (determining when a step's condition is not meet,

the step is violated); and marking said current output as complete (col. 4, lines 24-25), if said current output is said information type (col. 2, lines 27-35, col. 4, lines 21-22 and col. 6, lines 16-22; the automatic sequencing will terminate requiring operator intervention (i.e. at least on interactive instruction)).

6. As per claim 3, Lipner teaches as set forth below after the executing step, storing a value of said automatic expression to a destination reference (col. 3, lines 49-51).

7. As per claim 4, Lipner teaches a control system that uses, sequential control modules, said control system comprising:

a user interface component (col. 3, lines 47-49, Fig. 1, element 33 and 35) that provides at least a table view (Fig. 3), said table view comprising:

a plurality of outputs (col. 5, lines 62-65 and Fig. 3, element 67) of a step (Fig. 3, element 65) of at least one of said sequential control modules (col. 2, lines 10-13, col. 4, lines 53-55, col. 5, lines 3-5 and Fig. 3, element 47), wherein said outputs comprise a combination of at least one automatic expression (col. 2, lines 27-35 and col. 4, lines 19-20; i.e. automatic sequencing/Automatic Mode) and at least one interactive instruction (col. 2, lines 27-35 and col. 4, lines 21-22; when a sequential module is in an automatic sequence mode (i.e. at least one automatic expression) wherein a step's condition is not meet, the step is

violated, the automatic sequencing will terminate requiring operator intervention (i.e. at least one interactive instruction)),

a summary area (Fig. 3, element 49) that provides a name of said sequential control module and a list of steps in said sequential control module (col. 2, lines 10-13, col. 4, lines 53-55, col. 5, lines 3-5 and Fig. 3, element 47),

a details area that provides a step name and a step description for said step (Fig. 3, element 65), and

a parameters area that provides a current value of at least one parameter associated with said step (col. 5, lines 63-65 and Fig. 3, element 67);

an operator station (Fig. 1, element 19) that executes said user interface component (col. 3, lines 44-47) and that responds to at least one input operator for said interactive instruction (col. 2, lines 27-35, col. 3, lines 58-64, and col. 4, lines 19-22); and

at least one controller (col. 3, lines 18-21 and Fig. 1, element 15) that is operated by executing said interactive instruction at least partly in response to said operator input and said automatic expression automatically (col. 2, lines 27-35 and col. 4, lines 19-22 and 55-63).

Lipner does not expressly teach wherein said selected step is selected from said list (col. 5, lines 33-37).

Van Weele teaches a selected step (col. 7, lines 33-40, i.e. Sequence) is selected (col. 7, lines 3-24) from said list (col. 7, lines 41-50, i.e. Section).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Lipner to include a selected step is selected from said list to more efficiently control and supervise increasingly complex manufacturing processes by subdividing informational attributes (col. 2, lines 1-4).

8. As per claim 5, Lipner teaches as set forth above a journaling component (Fig. 1, element 37) capable of being executing on said operator station for recording information related to the execution of said sequential control module (col. 3, lines 49-51).

9. As per claim 7, Lipner teaches as set forth above an additional details area (Fig. 3, element 61) for information associated with said selected step (col. 5, lines 53-57).

10. As per claim 8, Lipner does not expressly teach a trend area that provides a graph of said at least one parameter associated with said selected step.

Van Weele teaches a trend area that provides a graph of said at least one parameter associated with said selected step (col. 33, lines 34-39 and 42-47).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Lipner to include a trend area that provides a graph of said at least one parameter associated with said selected step to more efficiently control and supervise increasingly complex manufacturing processes by subdividing informational attributes (col. 2, lines 1-4).

11. As per claim 9, Lipner teaches as set forth above said details area includes a confirmation component to receive a confirmation from said operator (col. 6, lines 16-22 and Fig. 3, element 59).

12. As per claim 10, Lipner teaches as set forth above said user interface component also provides a sequential function chart view (col. 4, lines 2-4 and Fig. 2, element 41).

13. As per claim 11, Lipner teaches a computer readable medium having executable instructions stored thereon to perform a method in a control system that uses sequential control modules, said method comprising:

providing a type indication on a display (col. 3, lines 47-49 and Fig. 1, element 33 and 35) for an instruction (Fig. 3, element 65) in a sequential control module (col. 2, lines 10-13, col. 4, lines 53-55, col. 5, lines 3-5 and Fig. 3, element 47), said type being confirmable (col. 2, lines 27-35 and col. 4, lines 19-20; i.e. automatic sequencing/Automatic Mode) or informational (col. 2, lines 27-35 and col. 4, lines 21-

22; when a sequential module is in an automatic sequence mode wherein a step's condition is not meet, the step is violated, the automatic sequencing will terminate requiring operator intervention); and

receiving a confirmation from an operator before completing said instruction, if said type is confirmable (col. 6, lines 16-22 and Fig. 3, element 59)

at least one of said executable instructions causing an interactive display screen (col. 2, lines 27-35, col. 4, lines 19-22 and col. 6, lines 16-22; when a sequential module is in an automatic sequence mode wherein a step's condition is not meet, the step is violated, the automatic sequencing will terminate requiring operator intervention) to be presented to an operator that displays:

a plurality of outputs (col. 5, lines 62-65 and Fig. 3, element 67) of a step (Fig. 3 element 65) of at least one of said sequential control modules (Fig. 3, element 47), wherein said outputs comprise a combination of both automatic expression (col. 2, lines 27-35 and col. 4, lines 19-20; i.e. automatic sequencing/Automatic Mode) and at least one interactive instruction (col. 2, lines 27-35 and col. 4, lines 21-22; when a sequential module is in an automatic sequence mode (i.e. at least one automatic expression) wherein a step's condition is not meet, the step is violated, the automatic sequencing will terminate requiring operator intervention (i.e. at least on interactive instruction)),

a summary area (Fig. 3, element 49) that provides a name of said sequential control module (Fig. 3, element 47) and a list of steps in said

sequential control module (col. 2, lines 10-13, col. 4, lines 53-55 and col. 5, lines 3-5),

a details area that provides a step name and a step description for said step (Fig. 3, element 65), and

a parameters area that provides a current value of at least one parameter associated with said step (col. 5, lines 63-65 and Fig. 3, element 67);

at least one of said executable instructions causing a determination of whether a current one of said outputs is an interactive instruction or an automatic expression (col. 2, lines 27-35 and col. 4, lines 19-22, i.e. when a state is violated, it is determined that an interactive instruction will occur);

at least one of said executable instructions causing, if said current output is an interactive instruction, a determination of whether said interactive instruction has been confirmed by said operator (col. 2, lines 27-35, col. 4, lines 21-22 and col. 6, lines 16-22; the automatic sequencing will terminate requiring operator intervention (i.e. at least one interactive instruction));

a marking said current output complete (col. 4, lines 24-25); and

at least one of said executable instructions causing, if said current output is an automatic expression, at least one controller (Fig. 1, element 5) in said control system to execute said automatic expression (col. 2, lines 27-35, col. 3, lines 13-17 and col. 4, lines 19-20; i.e. automatic sequencing/Automatic Mode).

Lipner does not expressly teach wherein said selected step is selected from said list.

Van Weele teaches a selected step (col. 7, lines 33-40, i.e. Sequence) is selected (col. 7, lines 3-24) from said list (col. 7, lines 41-50, i.e. Section).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Lipner to include a selected step is selected from said list to more efficiently control and supervise increasingly complex manufacturing processes by subdividing informational attributes (col. 2, lines 1-4).

14. As per claim 12, Lipner teaches as set forth above the computer readable medium further comprising:

at least one of said executable instructions causing at least one value of a parameter to be associated with at least one of said outputs on said display screen (col. 5, lines 63-65 and Fig. 3, element 67).

15. As per claim 13, Lipner teaches as set forth above the computer readable medium further comprising:

at least one of said executable instructions causing additional information about said current output to be displayed on said display screen (col. 5, lines 53-57 and Fig 3, element 61).

16. As per claim 14, Lipner teaches a method of providing interactive control in a control system that uses sequential control modules, said method comprising:

presenting an interactive display screen (col. 4, lines 35-39 and Fig. 3) to an operator that displays:

a plurality of outputs (col. 5, lines 62-65 and Fig. 3, element 67) of a step (Fig. 3, element 65) of at least one of said sequential control modules (col. 3, lines 28-29 and 49-51 and Fig. 3, element 49), wherein said outputs comprise a combination of at least one automatic expression and at least one interactive instruction (col. 2, lines 27-35 and col. 4, lines 19-22),

a summary area that provides a name of said sequential control module and a list of steps in said sequential control module (col. 2, lines 10-13, col. 4, lines 53-55, col. 5, lines 3-5 and Fig. 3, element 49),

a details area that provides a step name and a step description for said step (Fig. 3, element 65), and

a parameters area that provides a current value of at least one parameter associated with said step (col. 5, lines 63-65 and Fig. 3, element 67);

determining whether a current one of said outputs is an interactive instruction (col. 2, lines 27-35 and col. 4, lines 21-22; when a sequential module is in an automatic sequence mode (i.e. at least one automatic expression) wherein a step's condition is not meet, the step is violated, the automatic sequencing will terminate requiring operator intervention (i.e. at least on interactive instruction)) or an automatic expression (col. 2, lines 27-35 and col. 4, lines 19-20; i.e. automatic sequencing/Automatic Mode);

if said current output is an interactive instruction (col. 2, lines 27-35 and col. 4, lines 19-22, i.e. when a state is violated, it is determined that an interactive instruction will occur), determining whether said interactive instruction has been confirmed (col. 4, lines 24-25) by said operator (col. 6, lines 16-22);

if said interactive instruction has been confirmed by said operator, marking said current output complete (col. 4, lines 24-25); and

if said current output is an automatic expression (col. 2, lines 27-35 and col. 4, lines 19-20; i.e. automatic sequencing/Automatic Mode), using at least one controller (Fig. 1, element 5) in said control system to execute said automatic expression (col. 3, lines 13-17 and col. 4, lines 19-20).

Lipner does not expressly teach wherein said selected step is selected from said list.

Van Weele teaches a selected step (col. 7, lines 33-40, i.e. Sequence) is selected (col. 7, lines 3-24) from said list (col. 7, lines 41-50, i.e. Section).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Lipner to include a selected step is selected from said list to more efficiently control and supervise increasingly complex manufacturing processes by subdividing informational attributes (col. 2, lines 1-4).

17. As per claim 15, Lipner discloses a control system that uses sequential control modules, said control system comprising:

an operator station (Fig. 1, element 19) that comprises a user interface component (col. 3, lines 47-49 and Fig. 3, element 33 and 35) that provides a display to an operator (Fig. 3) and a program that runs on said operator station an interactive procedure (col. 3, lines 66-67 and col. 4, lines 19-22) to present on said display a table view (Fig. 3) comprising:

a plurality of outputs (col. 5, lines 62-65 and Fig. 3, element 67) of an operator step (Fig. 3, element 65) of at least one of said sequential control modules (col. 2, lines 10-13, col. 4, lines 53-55, col. 5, lines 3-5 and Fig. 3, element 47), wherein said outputs comprise a combination of at least one automatic expression (col. 2, lines 27-35 and col. 4, lines 19-20; i.e. automatic sequencing/Automatic Mode) and at least one interactive instruction (col. 2, lines

27-35 and col. 4, lines 21-22; when a sequential module is in an automatic sequence mode (i.e. at least one automatic expression) wherein a step's condition is not meet, the step is violated, the automatic sequencing will terminate requiring operator intervention (i.e. at least on interactive instruction))

a summary area (Fig. 3, element 49) that provides a name of said sequential control module (Fig. 3, element 47) and a list of steps in said sequential control module (col. 2, lines 10-13, col. 4, lines 53-55 and col. 5, lines 3-5),

a details area that provides a step name and a step description for said step (Fig. 3, element 65), and

a parameters area that provides a current value of at least one parameter associated with said step (col. 5, lines 63-65 and Fig. 3, element 67); and

a controller (col. 3, lines 18-21 and Fig. 1, element 15) that executes said automatic expression automatically and said interactive instruction at least partly in response to one or more inputs of said operator to said operator station (col. 2, lines 27-35, col. 3, lines 58-64 and col. 4, lines 19-22).

Lipner does not expressly teach wherein said selected step is selected from said list.

Van Weele teaches a selected step (col. 7, lines 33-40, i.e. Sequence) is selected (col. 7, lines 3-24) from said list (col. 7, lines 41-50, i.e. Section).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Lipner to include a selected step is selected from said list to more efficiently control and supervise increasingly complex manufacturing processes by subdividing informational attributes (col. 2, lines 1-4).

If, however the prior art is interpreted differently by a third party, the base reference and secondary reference teach "a display that provides a combination of at least one automatic expression and at least one interactive instruction" as follows:

18. Claims 2-5 and 7-15 are rejected under 35 U.S.C. 103(a) as obvious over Lipner in view of Van Weele or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lipner in view of Van Weele in further view of U.S. Patent No. 4,803,039 (hereinafter Impink).

19. As per claim 2, Lipner teaches as set forth below determining whether said current output is an information type (determining when a step's condition is not meet, the step is violated); and marking said current output as complete (col. 4, lines 24-25), if said current output is said information type (col. 2, lines 27-35, col. 4, lines 21-22 and col. 6, lines 16-22; the automatic sequencing will terminate requiring operator intervention (i.e. at least on interactive instruction)).

20. As per claim 3, Lipner teaches as set forth below after the executing step, storing a value of said automatic expression to a destination reference (col. 3, lines 49-51).

21. As per claim 4, Lipner teaches a control system that uses, sequential control modules, said control system comprising:

a user interface component (col. 3, lines 47-49, Fig. 1, element 33 and 35) that provides at least a table view (Fig. 3), said table view comprising:

a plurality of outputs (col. 5, lines 62-65 and Fig. 3, element 67) of a step (Fig. 3, element 65) of at least one of said sequential control modules (col. 2, lines 10-13, col. 4, lines 53-55, col. 5, lines 3-5 and Fig. 3, element 47),

a summary area (Fig. 3, element 49) that provides a name of said sequential control module and a list of steps in said sequential control module (col. 2, lines 10-13, col. 4, lines 53-55, col. 5, lines 3-5 and Fig. 3, element 47),

a details area that provides a step name and a step description for said step (Fig. 3, element 65), and

a parameters area that provides a current value of at least one parameter associated with said step (col. 5, lines 63-65 and Fig. 3, element 67);

an operator station (Fig. 1, element 19) that executes said user interface component (col. 3, lines 44-47) and that responds to at least one input operator for said interactive instruction (col. 2, lines 27-35, col. 3, lines 58-64, and col. 4, lines 19-22); and

at least one controller (col. 3, lines 18-21 and Fig. 1, element 15) that is operated by executing said interactive instruction at least partly in response to said operator input and said automatic expression automatically (col. 2, lines 27-35 and col. 4, lines 19-22 and 55-63).

Lipner does not expressly teach wherein said selected step is selected from said list and a display of a combination of at least one automatic expression and at least one interactive instruction.

Van Weele teaches a selected step (col. 7, lines 33-40, i.e. Sequence) is selected (col. 7, lines 3-24) from said list (col. 7, lines 41-50, i.e. Section).

Van Weele does not expressly teach a display of a combination of at least one automatic expression and at least one interactive instruction.

Impink teaches to a display (col. 6, lines 43-51, col. 15, line 67, col. 16, lines 1-5 and Fig. 1, element 27) of a combination (Table II) of at least one automatic expression (col. 13, lines 59-62 and col. 14, lines 51-56 and 59-65) and at least one interactive instruction (col. 14, lines 47-50 and 56-59).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Lipner to include a selected step is selected from said list to more efficiently control and supervise increasingly complex manufacturing processes by subdividing informational attributes (Van Weele:

col. 2, lines 1-4); and a display of a combination of at least one automatic expression a major advantage of the display generated in accordance with the invention is that all of the information is brought to one place for use by the operator (Impink: col. 13, lines 52-55).

22. As per claim 5, Lipner teaches as set forth above a journaling component (Fig. 1, element 37) capable of being executing on said operator station for recording information related to the execution of said sequential control module (col. 3, lines 49-51).

23. As per claim 7, Lipner teaches as set forth above an additional details area (Fig. 3, element 61) for information associated with said selected step (col. 5, lines 53-57).

24. As per claim 8, Lipner does not expressly teach a trend area that provides a graph of said at least one parameter associated with said selected step.

Van Weele teaches a trend area that provides a graph of said at least one parameter associated with said selected step (col. 33, lines 34-39 and 42-47).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Lipner to include a trend area that provides a graph of said at least one parameter associated with said selected step

to more efficiently control and supervise increasingly complex manufacturing processes by subdividing informational attributes (col. 2, lines 1-4).

25. As per claim 9, Lipner teaches as set forth above said details area includes a confirmation component to receive a confirmation from said operator (col. 6, lines 15-16 and Fig. 3, element 59).

26. As per claim 10, Lipner teaches as set forth above said user interface component also provides a sequential function chart view (col. 4, lines 2-4 and Fig. 2, element 41).

27. As per claim 11, Lipner teaches a computer readable medium having executable instructions stored thereon to perform a method in a control system that uses sequential control modules, said method comprising:

providing a type indication on a display (col. 3, lines 47-49 and Fig. 1, element 33 and 35) for an instruction (Fig. 3, element 65) in a sequential control module (col. 2, lines 10-13, col. 4, lines 53-55, col. 5, lines 3-5 and Fig. 3, element 47), said type being confirmable (col. 2, lines 27-35 and col. 4, lines 19-20; i.e. automatic sequencing/Automatic Mode) or informational (col. 2, lines 27-35 and col. 4, lines 21-22; when a sequential module is in an automatic sequence mode wherein a step's condition is not meet, the step is violated, the automatic sequencing will terminate requiring operator intervention); and

receiving a confirmation from an operator before completing said instruction, if said type is confirmable (col. 6, lines 16-22 and Fig. 3, element 59)

at least one of said executable instructions causing an interactive display screen (col. 2, lines 27-35, col. 4, lines 19-22 and col. 6, lines 16-22; when a sequential module (Fig. 3, element 47) is in an automatic sequence mode wherein a step's condition is not meet, the step is violated, the automatic sequencing will terminate requiring operator intervention) to be presented to an operator that displays:

a plurality of outputs (col. 5, lines 62-65 and Fig. 3, element 67) of a step (Fig. 3 element 65) of at least one of said sequential control modules (Fig. 3, element 47),

a summary area (Fig. 3, element 49) that provides a name of said sequential control module (Fig. 3, element 47) and a list of steps in said sequential control module (col. 2, lines 10-13, col. 4, lines 53-55 and col. 5, lines 3-5),

a details area that provides a step name and a step description for said step (Fig. 3, element 65), and

a parameters area that provides a current value of at least one parameter associated with said step (col. 5, lines 63-65 and Fig. 3, element 67);

at least one of said executable instructions causing a determination of whether a

current one of said outputs is an interactive instruction or an automatic expression (col. 2, lines 27-35 and col. 4, lines 19-22, i.e. when a state is violated, it is determined that an interactive instruction will occur);

at least one of said executable instructions causing, if said current output is an interactive instruction, a determination of whether said interactive instruction has been confirmed by said operator (col. 2, lines 27-35, col. 4, lines 21-22 and col. 6, lines 16-22; the automatic sequencing will terminate requiring operator intervention (i.e. at least one interactive instruction));

a marking said current output complete (col. 4, lines 24-25); and

at least one of said executable instructions causing, if said current output is an automatic expression, at least one controller (Fig. 1, element 5) in said control system to execute said automatic expression (col. 2, lines 27-35, col. 3, lines 13-17 and col. 4, lines 19-20; i.e. automatic sequencing/Automatic Mode)).

Lipner does not expressly teach wherein said selected step is selected from said list and a display of a combination of at least one automatic expression and at least one interactive instruction.

Van Weele teaches a selected step (col. 7, lines 33-40, i.e. Sequence) is selected (col. 7, lines 3-24) from said list (col. 7, lines 41-50, i.e. Section).

Van Weele does not expressly teach a display of a combination of at least one automatic expression and at least one interactive instruction.

Impink teaches to a display (col. 6, lines 43-51, col. 15, line 67, col. 16, lines 1-5 and Fig. 1, element 27) of a combination (Table II) of at least one automatic expression (col. 13, lines 59-62 and col. 14, lines 51-56 and 59-65) and at least one interactive instruction (col. 14, lines 47-50 and 56-59).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Lipner to include a selected step is selected from said list to more efficiently control and supervise increasingly complex manufacturing processes by subdividing informational attributes (Van Weele: col. 2, lines 1-4); and a display of a combination of at least one automatic expression a major advantage of the display generated in accordance with the invention is that all of the information is brought to one place for use by the operator (Impink: col. 13, lines 52-55).

28. As per claim 12, Lipner teaches as set forth above the computer readable medium further comprising:

at least one of said executable instructions causing at least one value of a parameter to be associated with at least one of said outputs on said display screen (col. 5, lines 63-65 and Fig. 3, element 67).

29. As per claim 13, Lipner teaches as set forth above the computer readable medium further comprising:

at least one of said executable instructions causing additional information about said current output to be displayed on said display screen (col. 5, lines 53-57 and Fig 3, element 61).

30. As per claim 14, Lipner teaches a method of providing interactive control in a control system that uses sequential control modules, said method comprising:

presenting an interactive display screen (col. 4, lines 35-39 and Fig. 3) to an operator that displays:

a plurality of outputs (col. 5, lines 62-65 and Fig. 3, element 67) of a step (Fig. 3, element 65) of at least one of said sequential control modules (col. 3, lines 28-29 and 49-51 and Fig. 3, element 49),

a summary area that provides a name of said sequential control module and a list of steps in said sequential control module (col. 2, lines 10-13, col. 4, lines 53-55, col. 5, lines 3-5 and Fig. 3, element 49),

a details area that provides a step name and a step description for said step (Fig. 3, element 65), and

a parameters area that provides a current value of at least one parameter associated with said step (col. 5, lines 63-65 and Fig. 3, element 67);

determining whether a current one of said outputs is an interactive instruction (col. 2, lines 27-35 and col. 4, lines 21-22; when a sequential module is in an automatic sequence mode (i.e. at least one automatic expression) wherein a step's condition is

not meet, the step is violated, the automatic sequencing will terminate requiring operator intervention (i.e. at least on interactive instruction)) or an automatic expression (col. 2, lines 27-35 and col. 4, lines 19-20; i.e. automatic sequencing/Automatic Mode);

if said current output is an interactive instruction (col. 2, lines 27-35 and col. 4, lines 19-22, i.e. when a state is violated, it is determined that an interactive instruction will occur), determining whether said interactive instruction has been confirmed by said operator (col. 6, lines 16-22);

if said interactive instruction has been confirmed by said operator, marking said current output complete (col. 4, lines 24-25); and

if said current output is an automatic expression (col. 2, lines 27-35 and col. 4, lines 19-20; i.e. automatic sequencing/Automatic Mode), using at least one controller (Fig. 1, element 5) in said control system to execute said automatic expression (col. 3, lines 13-17 and col. 4, lines 19-20).

Lipner does not expressly teach wherein said selected step is selected from said list and a display of a combination of at least one automatic expression and at least one interactive instruction.

Van Weele teaches a selected step (col. 7, lines 33-40, i.e. Sequence) is selected (col. 7, lines 3-24) from said list (col. 7, lines 41-50, i.e. Section).

Van Weele does not expressly teach a display of a combination of at least one automatic expression and at least one interactive instruction.

Impink teaches to a display (col. 6, lines 43-51, col. 15, line 67, col. 16, lines 1-5 and Fig. 1, element 27) of a combination (Table II) of at least one automatic expression (col. 13, lines 59-62 and col. 14, lines 51-56 and 59-65) and at least one interactive instruction (col. 14, lines 47-50 and 56-59).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Lipner to include a selected step is selected from said list to more efficiently control and supervise increasingly complex manufacturing processes by subdividing informational attributes (Van Weele: col. 2, lines 1-4); and a display of a combination of at least one automatic expression a major advantage of the display generated in accordance with the invention is that all of the information is brought to one place for use by the operator (Impink: col. 13, lines 52-55).

31. As per claim 15, Lipner teaches as set forth above a control system that uses sequential control modules, said control system comprising:

an operator station (Fig. 1, element 19) that comprises a user interface component (col. 3, lines 47-49 and Fig. 3, element 33 and 35) that provides a display to an operator (Fig. 3) and a program that runs on said operator station an interactive

procedure (col. 3, lines 66-67 and col. 4, lines 19-22) to present on said display a table view (Fig. 3) comprising:

a plurality of outputs (col. 5, lines 62-65 and Fig. 3, element 67) of an operator step (Fig. 3, element 65) of at least one of said sequential control modules (col. 2, lines 10-13, col. 4, lines 53-55, col. 5, lines 3-5 and Fig. 3, element 47)

a summary area (Fig. 3, element 49) that provides a name of said sequential control module (Fig. 3, element 47) and a list of steps in said sequential control module (col. 2, lines 10-13, col. 4, lines 53-55 and col. 5, lines 3-5),

a details area that provides a step name and a step description for said step (Fig. 3, element 65), and

a parameters area that provides a current value of at least one parameter associated with said step (col. 5, lines 63-65 and Fig. 3, element 67); and

a controller (col. 3, lines 18-21 and Fig. 1, element 15) that executes said automatic expression automatically and said interactive instruction at least partly in response to one or more inputs of said operator to said operator station (col. 2, lines 27-35, col. 3, lines 58-64 and col. 4, lines 19-22).

Lipner does not expressly teach wherein said selected step is selected from said list and a display of a combination of at least one automatic expression and at least one interactive instruction.

Van Weele teaches a selected step (col. 7, lines 33-40, i.e. Sequence) is selected (col. 7, lines 3-24) from said list (col. 7, lines 41-50, i.e. Section).

Van Weele does not expressly teach a display of a combination of at least one automatic expression and at least one interactive instruction.

Impink teaches to a display (col. 6, lines 43-51, col. 15, line 67, col. 16, lines 1-5 and Fig. 1, element 27) of a combination (Table II) of at least one automatic expression (col. 13, lines 59-62 and col. 14, lines 51-56 and 59-65) and at least one interactive instruction (col. 14, lines 47-50 and 56-59).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Lipner to include a display of a combination of at least one automatic expression a major advantage of the display generated in accordance with the invention is that all of the information is brought to one place for use by the operator (col. 13, lines 52-55).

Response to Arguments

32. Applicant's arguments see Remarks pgs. 1-6, filed 14 April 2008 with respect to claims 2-5 and 9-15 under 35 U.S.C. 103(a) have been fully considered but they are not persuasive.

33. With respect to the Applicant arguments, "Lipner does not discloses or teach a table view comprising a combination automatic and violated mode, but rather teaches separate views or screens for each." (see Remarks, pg. 2, paragraph 2); and "Lipner does not discloses that screen 47 displays a plurality of outputs of step 6, wherein said outputs comprise a combination of at least one automatic expression and at least on interactive instruction." (see Remarks pg. 3, paragraph 3) The Examiner respectfully disagrees.

Figure 3, element 47 is an example of Lipner's system in a manual mode. Figure 3 has been cited to provide a pictorial view of one example of Lipner's automatic-interactive system, and was not intended to be interpreted in isolation as Lipner's only method/system for providing a control system that uses control modules. The Examiner has further clarified her position of how Lipner teaches to the invention of the instant application as set forth above in the rejection of claims 2-5 and 7-15 under 35 U.S.C. 103(a) as obvious over Lipner in view of Van Weele or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lipner in view of Van Weele in further view of Impink.

Furthermore, Lipner teaches (col. 2, lines 27-35) "Some of the procedural steps generate control signals which result in modification of process conditions. Such control signals can be automatically generated by a procedure which is running automatically. Some procedures call for verification that the control signal has been effective before

advancing to the next step. In some instances, this may take some time. If the condition is not satisfied, the step is violated and the automatic sequencing will terminate requiring operator intervention."

> (col. 4, lines 19-22) "The operator, however, must initiate progression to the next step. In the "automatic" mode, the SSCI will advance to the next step if the pertinent conditions are verified. If the conditions are violated, however, the procedure will transfer to a "violated" mode which requires operator action."

In summary, Lipner teaches to an automatic sequencing/Automatic Mode wherein when a step's condition is not meet, the step is violated, the automatic sequencing terminates requiring operator intervention. Lipner also teaches to indicating an "Automatic Mode" of the Procedure interface screen of Fig. 3, element 47, and the output of a step(s) has been violated by indicating "violated" next to the step(s) (as shown in the pictorial example of Figure 3); hence teaches to Applicant's claimed limitation of "said outputs comprises a combination of at least one automatic expression and at least one interactive instruction".

34. In regards to Applicant's argument that Lipner does not disclose the following limitations,

- "Lipner's area 49 does not include a list of steps of procedure A as recited in amended independent claims 4." (see Remarks, pg. 3, paragraph 1);
- "any selection by a user of step 6 in the Fig. 3 screen." (see Remarks, pg. 3, paragraph 2);

- "wherein said selected step is selected from said list." (see Remarks, pg. 3, paragraph 4),

the Examiner recognizes the Applicant has not accounted for the combination of Lipner and Van Weele, or in the alternative, the combination of Lipner, Van Weele and Impink under 35 U.S.C 103(a) for this limitation as set forth in the Non-Final Office Action, mailed on 11 September 2008.

35. In response to Applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Van Weele teaches, "To more efficiently control and supervise increasingly complex manufacturing processes, the physical, datalogical, and informational attributes associated with these processes have been subdivided into a plurality of SEQUENCES." (col. 2, lines 1-4).

36. In response to Applicant's argument that the Examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon

hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

37. With respect to Applicant's statement, "The Examiner admits the table view deficiency (paragraph 22) at page 14 of the Office Action." (see Remarks 5, paragraph 1). The Examiner respectfully disagrees with this statement.

The Examiner asserts that "said outputs comprises a combination of at least one automatic expression and at least one interactive instruction" is taught by Lipner, however has offered an alternative rejection to further clarify the rejection based on the Applicant's contention that Lipner does not teach, "said outputs comprises a combination of at least one automatic expression and at least one interactive instruction".

38. In regards to Applicant's argument that Impink does not teach or disclose, "a table view that comprises a plurality of outputs of a selected step, "wherein said outputs comprise a combination of at least one automatic expression and at least one interactive instruction."" (see Remarks, pg. 5, paragraph 2), the Examiner recognizes the Applicant has not accounted for the combination of Lipner, Van Weele and Impink

under 35 U.S.C 103(a) for this limitation as set forth in the Non-Office Action, mailed on 08 January 2008.

Furthermore, Impink is relied upon to display (col. 6, lines 43-51, col. 15, line 67, col. 16, lines 1-5 and Fig. 1, element 27) a combination (Table II) of at least one automatic expression (col. 13, lines 59-62 and col. 14, lines 51-56 and 59-65) and at least one interactive instruction (col. 14, lines 47-50 and 56-59).

> (col. 6, lines 43-51) "The computer 23 interfaces to a display generator 25 (such as a Raster Technologies Model 180 unit) to provide the color graphics output of the procedures program on a visual display device such as a high-resolution color monitor 27. The user 11, or operator, observes the visual display generated on the color monitor and provides input to the system through a keypad or equivalent device such as a touch screen overlay on the color monitor 29."
>
> (col. 13, lines 59-62) "The user is not burdened with remembering whether a parameter or component should be checked; the system does it for him. As a result, the user is able to concentrate on transient recovery, while the system serves as his memory."

(col. 14, lines 25-43)

TABLE II

Procedure	Step	Finish Time	Step/Sub-step Status At Finish			
E-0	1	09:05:30	2	2	2	2
E-0	2	09:05:35	2			
E-0	3	09:05:40	2	2		
E-0	4	09:05:50	2			
E-0	5	09:06:05	2	2	2	2
E-0	6	09:06:15	2	2		
E-0	7	09:06:25	1	-2	2	
E-0	8	09:06:30	2	2	2	
E-0	9	09:07:00	2			
E-0	10	09:07:25	2			
E-0	11	09:07:30	2			
E-0	12	09:08:20	2			
E-0	13	09:09:05	2			
E-0	14	09:09:30	2			
E-0	15	09:09:55	2	2		
E-0	16	09:10:45	1			
FR-H.1	10	09:13:40	1			

(col. 14, lines 47-56) "The numeral "1" indicates that the condition was not verified by the sensors, but that the operator indicated that the recommended manual action had been completed. An "O" indicates that the required action was overridden. Some substeps do not require operator action but indicate whether a particular condition exists or not. An example of this occurs in Step 7. The first substep checks the motor driven auxiliary feedwater pumps as was illustrated by the display of FIG. 3."

(col. 14, lines 59-65) "The second substep of Step 7 determines whether it is necessary to have the turbine driven pump on. The "-2" indicates that it is not necessary. A "-1" would have indicated that it was necessary. The third substep then checks if the turbine driven pump is on. The "2" indicates that the sensors detect that it is on in the situation depicted by the example."

(col. 15, lines 67-col. 16, lines 1-5) "Depending on the particular application and need the terminals could be either passive, simply displaying information generated by the host computer, or active, transmitting local operator input to the host computer as well as displaying computer output to the operator."

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer L. Norton whose telephone number is (571)272-3694. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on 571-272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Albert DeCady/
Supervisory Patent Examiner, Art Unit 2121

Albert DeCady
Examiner
Art Unit 2121

Application Number	Application/Control No.	Applicant(s)/Patent under Reexamination	
	10/729,774	SCHREDER ET AL.	
	Examiner	Art Unit	
	JENNIFER L. NORTON	2121	